

Fermilab

Fermi National Accelerator Laboratory
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Accelerator Division/Electron Cooling

May 28, 2004

MEMO TO: Distribution

FROM: Jerry Leibfritz
Project Manager

SUBJECT: **APRIL MONTHLY REPORT**
MI-31
FESS/Engineering Project No. 6-6-44

Please find attached the April 2004 monthly report for this project.

Enclosure

Distribution:

- P. Philp/MS 118
- M. Witherell/MS 105
- K. Stanfield/ MS 105
- S. Holmes/MS 105
- E. Temple/ MS 200
- J. Brown/MS 200
- H. Dick/ MS 306
- D. Carlson/MS 211
- C. Trimby/MS 212
- D. Nevin/MS 214
- E. Crumpley/MS 214
- S. Nagaitsev/ MS 307
- J. Sims/MS 214
- T. Prosapio/MS 214
- J. Spalding/MS 341
- R. Stefanski/MS 122
- Project File 6-6-44
- Chrono File

REPORTING PERIOD: April 2004

I. PROGRESS

1.1 General Construction

- a. Activity – Primary work activities included; elevator installation, fire protection and detection system installation and testing, touch up painting, plumbing, suspended ceiling and lighting installation, floor tile installation, grading, seeding and general clean up of the site.
- b. Cumulative hours worked – approximately 19,000 hours through 4/31/04.
- c. Subcontractor's schedule evaluation – As of 4/30/04 the Subcontractor is on schedule to meet the project completion of 5/6/04. Pay update # 9 in the amount of \$447,592 occurred on 4/19/04. See attached reports and section II of this report for an earned value analysis. The main Subcontract is approximately 99% by earned value complete as of 4/30/04. Partial Beneficial Occupancy of the lower level was taken on 4/20/04.
- d. Engineering Change Proposals/ Requests – See latest ECP list on Website. Supplemental Agreement numbers 1 through 8 have been incorporated into the Subcontract. At this time the total subcontract amount is \$2,762,293 and the completion date is 05/06/04.
- e. Upcoming issues – Punchlist, full beneficial occupancy and final acceptance.
- f. Photographs:





1.2 Project Support

- a. Efforts this month were spent on review of submittals, field supervision and construction administration related activities.

SCHEDULE INFORMATION AND MILESTONES:

MILESTONE	DEFINITION	BASELINE	PEP Dates	Latest Estimates
Start Project	Directive signed	30 May 02	30 May 02	26 Jun 02 (actual)
T2 Design Complete	Contract documents submitted for procurement	15 Jan 03	15 Aug 02	15 Nov 02 (actual)
Begin Construction	Notice To Proceed Issued – Switch work	27 Jun 03	21 Nov 02	17 Jan 03 (actual)
Construction Complete	Final acceptance of all work	9 Jun 04	9 Dec 03	6 May 04
Project Complete	Project closed	30 Nov 04	10 Dec 03	20 Jun 04

**II. Overall Project Cost Summary and Earned Value Analysis:**

		ORIGINAL BASELINE PROJECT COSTS (2001 dollars)		Latest Estimated Cost*	
1.1 General Construction		\$3,047,000		\$3,133,720	
1.1.1	Construction W / 18% OHP		\$2,323,000		\$2,945,433
1.1.2	Construction Contingency	22%	\$511,000		\$79,188 3%
1.1.3	Construction G & A		\$83,000		\$109,099
1.1.4	Escalation (4.6%)	4.6%	\$130,000		\$0
1.2 Project Support		\$763,000		\$676,280	
1.2.1	Project Engineering		\$465,000		\$520,000
1.2.2	Project Support Contingency	21%	\$99,000		\$14,280 3%
1.2.3	Project Support G & A		\$166,000		\$142,000
1.2.4	Escalation (4.6%)		\$33,000		\$0
Total Project Cost		\$3,810,000		\$3,810,000	

*NOTE THAT 1.1 AND 1.2 HAVE BEEN REDISTRIBUTED (2/21/03) TO REFLECT USE OF MUCH OF THE ESCALATION, ACTUAL FIXED PRICE CONSTRUCTION COSTS, AND A HIGHER CONTINGENCY. Includes Supplemental Agreements 1,through 8 and all T&M actual costs to date.



ATTACHMENTS

See MI-31 website

<http://www-ap.fnal.gov/ecool/internal.html>

for the following:

TSR Report for 4-04

Earned Value Reports - Cost Reports and Graphs up to 4-04

Engineering Change Proposal List

More Photographs

Task Summary Report by Expenditure Type ("TSR")

Period End: APR-04

Report on tasks: 1

A0201 - MI31 Ecooling Bldg

1 - MI31 Ecooling Bldg
Service Type: PL-EXST PRGM
SUPP-AIP

Personnel Costs

	Curr Month Costs	Curr YTD Costs	Curr YTD Obligations	Inception to Date Obligations	Inception to Date Costs	Reqs. in Process	Open Commitments
FRINGE BENEFITS	169.00	1,031.31	1,031.31	3,222.37	3,222.37	0.00	0.00
OPTO ALLOC-MONTHLY	9.07	159.07	159.07	864.12	864.12	0.00	0.00
OPTO ALLOC-WEEKLY	27.56	27.56	27.56	106.70	106.70	0.00	0.00
OVERTIME	0.00	76.06	76.06	180.15	180.15	0.00	0.00
TIME WORKED -MONTHLY	139.50	2,447.31	2,447.31	11,346.55	11,346.55	0.00	0.00
TIME WORKED -WEEKLY	306.28	306.28	306.28	322.21	322.21	0.00	0.00
VAC EARNED ALLOC-MONTHLY	15.35	269.20	269.20	1,449.45	1,449.45	0.00	0.00
VAC EARNED ALLOC-WEEKLY	33.70	33.70	33.70	128.61	128.61	0.00	0.00
Personnel Costs	700.46	4,350.49	4,350.49	17,620.16	17,620.16	0.00	0.00

Materials & Services

CONSTRUCTION ENGINEERING	17,885.00	137,824.00	137,824.00	389,069.00	389,069.00	0.00	0.00
EXEMPT - CIVIL CONSTR.	47,411.00	1,102,035.00	1,181,381.00	2,363,867.00	2,284,521.00	19,716.30	79,346.00
EXEMPT - CIVIL CONSTRUCTION	349,382.00	398,426.00	-1,054,624.00	398,426.00	398,426.00	0.00	0.00
FEES	0.00	0.00	0.00	500.00	500.00	0.00	0.00
FREIGHT	65.00	590.76	590.76	596.33	596.33	0.00	0.00
MACHINE SHOP	0.00	110.00	110.00	110.00	110.00	0.00	0.00
MATERIAL PURCHASES	24,670.00	61,822.06	61,822.06	82,283.77	82,283.77	0.00	0.00
PHOTO/GRAPHIC SERVICES	12.00	137.50	137.50	215.50	215.50	0.00	0.00
STORES ISSUES	0.00	0.00	0.00	640.42	640.42	0.00	0.00
SUB-CONTRACT SERVICES	0.00	5,395.53	19,961.80	128,612.03	109,115.72	0.00	19,496.31
T&M CONSTRUCTION SVCS.	0.00	0.00	0.00	8,678.12	8,678.12	0.00	0.00

1 - MI31 Ecooling Bldg
Service Type: PL-EXST PRGM
SUPP-AIP

Materials & Services

	Curr Month Costs	Curr YTD Costs	Curr YTD Obligations	Inception to Date Obligations	Inception to Date Costs	Reqs. in Process	Open Commitments
T&M ELECTRICAL SERVICES	0.00	0.00	0.00	12,966.11	12,966.11	0.00	0.00
T&M PIPE FITTERS	0.00	0.00	0.00	2,050.86	2,050.86	0.00	0.00
T&M RIGGING SERVICES	0.00	19,424.12	-16,454.16	64,829.68	64,829.68	0.00	0.00
TRAVEL, DOMESTIC-LAB EMPLOYEE	0.00	95.13	95.13	95.13	95.13	0.00	0.00
Materials & Services	439,425.00	1,725,860.10	330,844.09	3,452,939.95	3,354,097.64	19,716.30	98,842.31
<u>Indirect Cost</u>							
CSS ALLOCATION	3,438.32	26,322.67	26,322.67	74,462.30	74,462.30	0.00	0.00
G&A ALLOCATION	1.20	23.26	23.26	62,298.92	62,298.92	0.00	0.00
G&A ALLOCATION-CSS PORTION	2,202.39	16,860.77	16,860.77	42,417.46	42,417.46	0.00	0.00
G&A ALLOCATION-M&S PORTION	2,609.54	9,203.07	9,203.07	25,406.11	25,406.11	0.00	0.00
MSA ALLOCATION	1,360.44	4,797.82	4,797.82	44,540.08	44,540.08	0.00	0.00
Indirect Cost	9,611.89	57,207.59	57,207.59	249,124.87	249,124.87	0.00	0.00
1 - MI31 Ecooling Bldg SUBTOTAL:	449,737.35	1,787,418.18	392,402.17	3,719,684.98	3,620,842.67	19,716.30	98,842.31
DIST. TO ACCOUNTS REC'BL:	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UNDISTRIBUTED BALANCE:	449,737.35	1,787,418.18	392,402.17	3,719,684.98	3,620,842.67	19,716.30	98,842.31

Period End: APR-04

Report on tasks: 1

<u>REPORT TOTALS</u>							
TOTAL PROJECT/TASK:	449,737.35	1,787,418.18	392,402.17	3,719,684.98	3,620,842.67	19,716.30	98,842.31
TOTAL DIST. ACCTS REC'BL:	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL UNDIST BALANCE:	449,737.35	1,787,418.18	392,402.17	3,719,684.98	3,620,842.67	19,716.30	98,842.31

ACWP
MI-31 Actual Spending Profile
WBS 1.1 and 1.2

F Y O 2	Title Source Type	WBS 1.2 Project Support												Monthly Totals	Cumulative Totals	WBS 1.1 Construction																		Monthly Totals	Cumulative Totals		
		T2 Hanson Direct	T2 Hanson G&A	T2 FESS Chargeback	T2 FESS G&A	T3 FESS M&S Direct	T3 FESS M&S G&A	T3 FESS Chargeback	T3 FESS G&A	T3 FESS Chargeback	T3 FESS G&A	T3 PM Salary TX	T3 PM G&A			T3 Whittaker Direct**	T3 Whittaker G&A	T3 Whittaker Incentive	T3 Whittaker G&A	T3 T&M Direct	T3 T&M G&A	T3 Procurement Direct	T3 Procurement G&A	T3 T&M Direct	T3 T&M G&A	T3 T&M Direct	T3 T&M G&A	T3 Chiller Procurement Direct	T3 Chiller Procurement G&A	T3 T&M Direct	T3 T&M G&A	T3 T&M Direct	T3 T&M G&A			T3 T&M Direct	T3 T&M G&A
		Mo-Yr																																			
	Jul-02			\$8,512	\$2,477	\$304	\$52																														
	Aug-02	\$41,283	\$7,018	\$12,736	\$3,550																																
	Sep-02	\$28,350	\$4,820	\$13,376	\$4,013																																
	Oct-02			\$5,503	\$1,535	\$2,594	\$441																														
	Nov-02	\$20,500	\$3,764																																		
	Dec-02																																				
	Jan-03																																				
	Feb-03																																				
	Mar-03																																				
	Apr-03																																				
	May-03																																				
	Jun-03																																				
	Jul-03																																				
	Aug-03																																				
	Sep-03																																				
	Oct-03																																				
	Nov-03																																				
	Dec-03																																				
	Jan-04																																				
	Feb-04																																				
	Mar-04																																				
	Apr-04																																				
	May-04																																				
TOTALS		\$90,133	\$15,601	\$40,127	\$11,575	\$3,037	\$516	\$165,592	\$50,214	\$197,530	\$59,619	\$15,918	\$3,590																								

WBS 1.2 Escalation and Contingency

Total for WBS 1.2 = \$676,280
Total Direct and G&A (above)= \$653,452
Project Support Escalation = \$0
Project Support Contingency = \$22,828 Not Accurate, Reflects unused portions of Direct and Indirect Costs

** NOTE: THIS SPREAD SHEET WILL NOT FOLLOW THE MONTHLY TSR DIRECTLY BECAUSE COST SHOWN UNDER WHITTAKERS T3 SUBCONTRACT ARE EARNED VALUE NOT WHAT HAS BEEN PAID OUT. SEE THE CHART BELOW FOR PAYOUT INFORMATION.

WBS 1.1 Escalation and Contingency

Total for WBS 1.1 = \$3,133,720
Total Direct and G&A (above)= \$2,966,018
Project Support Escalation = \$0
Construction Contingency = \$167,702 Not Accurate, Reflects unused portions of Direct and Indirect Costs

*Total Indirect= \$141,116
Total Direct = \$512,336

Note: 1. G&A distribution by month is approximate
2. Text in italics includes costs from Hanson Engineers PO 550107as support of FESS/Engr in house efforts.

PAYOUT SUMMARY											
Payout #	Payout Date amount	PAYMENT MILESTONE	Completion DATE	Actual Comp DATE	AMOUNT	CUMULATIVE TOTAL PAYOUT	RETENTION	CUMULATIVE 10% RETENTION	% OF CONTRACT COMPLETE		
Payout #1	6/12/2003 \$399,141	1A	06/02/03	5/5/2003	\$118,384.00	\$118,384.00	\$11,838.40	\$11,838.40	14%		
Payout #2	7/1/2003 \$361,749	1B	06/18/03	6/10/2003	\$280,757.00	\$399,141.00	\$28,075.70	\$39,914.10			
		1C	06/25/03	6/15/2003	\$210,313.00	\$609,454.00	\$21,031.30	\$60,945.40			
Payout #3	8/13/2003 \$180,404	1D	06/27/03	6/27/2003	\$106,112.00	\$715,566.00	\$10,611.20	\$71,556.60	28%		
		1E	07/25/03	7/1/2003	\$45,324.00	\$760,890.00	\$4,532.40	\$76,089.00			
Payout #4	9/3/2004 \$165,725	1F	08/05/03	7/18/2003	\$89,708.00	\$850,598.00	\$8,970.80	\$85,059.80			
		1G	08/05/03	8/5/2003	\$87,682.00	\$938,280.00	\$8,768.20	\$93,828.00	34%		
Payout #5	10/20/2003 \$174,042	1J	07/24/03	7/10/2003	\$3,014.00	\$941,294.00	\$301.40	\$94,129.40			
		1H	08/28/03	8/18/2003	\$88,043.00	\$1,029,337.00	\$8,804.30	\$102,933.70	40%		
Payout #6	11/21/2003 \$460,499	1I	09/08/03	8/28/2003	\$77,682.00	\$1,107,019.00	\$7,768.20	\$110,701.90			
		1K	09/25/03	9/8/2003	\$37,558.00	\$1,144,577.00	\$3,755.80	\$114,457.70	46%		
Payout #7	12/31/2003 \$231,536	5A	10/02/03	9/28/2003	\$67,340.00	\$1,211,917.00	\$6,734.00	\$121,191.70			
		5B	10/28/03	10/20/2003	\$69,144.00	\$1,281,061.00	\$6,914.40	\$128,106.10			
Payout #8	1/30/2004 \$262,259	2A	10/31/03	10/31/03	\$60,617.00	\$1,341,678.00	\$6,061.70	\$134,167.80			
		2B	11/14/03	11/14/03	\$68,843.00	\$1,410,521.00	\$6,884.30	\$141,052.10			
Payout #9	4/19/2004 \$447,592	2C	11/19/03	11/19/03	\$26,363.00	\$1,436,884.00	\$2,636.30	\$143,688.40			
		2E	12/21/03	12/21/03	\$184,659.00	\$1,621,543.00	\$18,465.90	\$162,154.30			
Payout #10	5/19/2004 \$262,259	2H	11/10/04	11/10/04	\$46,172.00	\$1,667,715.00	\$4,617.20	\$166,771.50			
		3A	11/17/03	11/10/04	\$73,845.00	\$1,741,560.00	\$7,384.50	\$174,156.00	63%		
Payout #11	6/19/2004 \$262,259	2F	12/31/03	12/31/2003	\$107,648.00	\$1,849,208.00	\$10,764.80	\$184,920.80			
		2I	12/31/03	12/31/2003	\$103,663.00	\$1,952,871.00	\$10,366.30	\$195,287.10			
Payout #12	7/19/2004 \$262,259	3D	12/16/03	12/23/2003	\$20,225.00	\$1,973,096.00	\$2,022.50	\$197,309.60	71%		
		2G	12/31/03	1/6/2004	\$25,812.00	\$1,998,908.00	\$1,290.60	\$99,945.40	Reduced Retention to 5%		
Payout #13	8/19/2004 \$262,259	3B	02/02/04	1/30/2004	\$187,560.00	\$2,186,468.00	\$9,378.00	\$109,323.40			
		4B	02/23/04	1/30/2004	\$48,887.00	\$2,235,355.00	\$2,444.35	\$111,767.75	81%		
Payout #14	9/19/2004 \$262,259	2D	11/20/03	4/14/2004	\$9,850.00	\$2,245,205.00	\$492.50	\$112,260.25			
		3C	03/02/04	3/2/2004	\$21,178.00	\$2,266,383.00	\$1,058.90	\$113,319.15			
Payout #15	10/19/2004 \$262,259	3E	03/02/04	3/15/2004	\$21,166.00	\$2,287,549.00	\$1,058.30	\$114,377.45			
		3F	03/02/04	4/19/2004	\$259,645.00	\$2,547,194.00	\$12,982.25	\$127,359.70			
Payout #16	11/19/2004 \$262,259	4C	03/25/04	3/25/2004	\$84,375.00	\$2,631,569.00	\$4,218.75	\$131,578.45			
		4E	03/25/04	3/25/2004	\$10,727.00	\$2,642,296.00	\$536.35	\$132,114.80			
Payout #17	12/19/2004 \$262,259	6A	04/09/04	4/9/2004	\$40,651.00	\$2,682,947.00	\$2,032.55	\$134,147.35	97%		
		4A	03/25/04		\$8,530.00						
Payout #18	1/19/2005 \$262,259	4D	03/25/04		\$15,016.00						
		6B	04/21/04		\$20,800.00						
Payout #19	2/19/2005 \$262,259	7	05/06/04		\$35,000.00						
						\$2,762,293.00					

TPC	
Monthly Totals	Cumulative Totals
\$11,345	\$11,345
\$65,844	\$77,189
\$51,815	\$129,004
\$21,171	\$150,175
\$35,708	\$185,884
\$16,810	\$202,694
\$23,157	\$225,852

BCWP
MI-31 Spending Profile
WBS 1.1 and 1.2

[illegible]

WBS 1. 2 Escalation and Contingency

Total for WBS 1.2 =	\$676,280	
Total Direct and G&A (above)=	\$617,778 *	
Project Support Escalation =	\$0	
Project Support Contingency =	\$58,502	12%

** NOTE BUDGETED COST OF WORK PERFORMED IS BASED ON WHITTAKERS LATEST T3 COST LOADED SCHEDULE.

WBS 1.1 Escalation and Contingency

Total for WBS 1.1 =	\$3,133,720	
Total Direct and G&A (above)=	\$2,937,016 *	
Project Support Escalation =	\$0	
Construction Contingency =	\$196,704	7%

Total Indirect=	\$135,291
Total Direct =	\$482,487

Total Indirect=	\$105,410
Total Direct =	\$2,831,607

BCWS
MI-31 Anticipated Spending Profile
WBS 1.1 and 1.2

		WBS 1.2 Project Support												WBS 1.1 Construction																						
Title Source Type	T2 Hanson Direct	T2 Hanson G&A	T2 FESS Chargeback	T2 FESS G&A	T3 FESS M&S	T3 FESS Chargeback	T3 FESS G&A	T3 FESS Chargeback	T3 FESS G&A	T3 PM Salary TX	T3 PM G&A	Monthly Totals	Cumulative Totals	T3 Whittaker Direct**	T3 Whittaker G&A	T3 Whittaker Incentive	T3 Whittaker G&A	T3 T&M Direct	T3 T&M G&A	T3 Procurement Direct	T3 Procurement G&A	T3 T&M Direct	T3 T&M G&A	T3 T&M Direct	T3 T&M G&A	T3 Procurement Direct	T3 Procurement G&A	T3 T&M Direct	T3 T&M G&A	T3 T&M Direct	T3 T&M G&A	Monthly Totals	Cumulative Totals			
F Y O 2	Mo-Yr																																			
	Jul-02	\$25,000	\$4,250	\$10,000	\$3,000	\$300	\$51						\$42,601	\$42,601																			\$0	\$0		
	Aug-02	\$20,000	\$3,400	\$10,000	\$3,000					\$1,000	\$300		\$37,700	\$80,301																			\$0	\$0		
	Sep-02	\$24,587	\$4,180	\$11,800	\$3,540					\$1,000	\$300		\$45,407	\$125,708																			\$0	\$0		
F Y O 3	Oct-02	\$10,000	\$3,000			\$300	\$51																											\$0	\$0	
	Nov-02	\$20,500	\$3,485	\$10,000	\$3,000								\$42,185	\$186,444																				\$0	\$0	
	Dec-02												\$3,000	\$900	\$1,000	\$300																		\$0	\$0	
	Jan-03												\$3,000	\$900	\$1,000	\$300																		\$0	\$0	
	Feb-03												\$3,000	\$900	\$1,000	\$300																		\$0	\$0	
	Mar-03					\$200	\$34						\$12,000	\$3,720	\$11,000	\$3,410	\$1,000	\$300																\$24,742	\$24,742	
	Apr-03												\$12,000	\$3,720	\$12,000	\$3,720	\$900	\$200																\$7,800	\$202,044	
	May-03												\$12,000	\$3,720	\$12,000	\$3,720	\$900	\$200																\$7,800	\$209,844	
	Jun-03												\$12,000	\$3,720	\$12,000	\$3,720	\$900	\$200																	\$7,800	\$209,844
	Jul-03												\$12,000	\$3,720	\$12,000	\$3,720	\$900	\$200																	\$7,800	\$209,844
	Aug-03												\$12,000	\$3,720	\$12,000	\$3,720	\$900	\$200																	\$7,800	\$209,844
Sep-03												\$12,000	\$3,720	\$12,000	\$3,720	\$900	\$200																	\$7,800	\$209,844	
F Y O 4	Oct-03											\$200	\$32,540	\$469,288																					\$20,357	\$177,390
	Nov-03											\$200	\$32,540	\$501,828																					\$20,357	\$177,390
	Dec-03											\$200	\$32,540	\$534,368																					\$20,357	\$177,390
	Jan-04											\$200	\$32,540	\$566,908																					\$20,357	\$177,390
	Feb-04											\$200	\$32,540	\$588,968																					\$20,357	\$177,390
	Mar-04											\$200	\$32,540	\$611,130																					\$20,357	\$177,390
	Apr-04											\$200	\$32,540	\$617,778																					\$20,357	\$177,390
	May-04											\$200	\$32,540	\$617,778																					\$20,357	\$177,390
TOTALS		\$90,087	\$15,315	\$51,800	\$15,540	\$800	\$136	\$151,000	\$46,750	\$170,000	\$52,550	\$18,800	\$5,000		\$2,742,293	\$80,240	\$20,000	\$0	\$20,897	\$3,845	\$20,357	\$3,746	\$28,655	\$4,585	\$10,000	\$1,600	\$31,000	\$2,613	\$39,087	\$6,746	\$33,154	\$5,724	\$0	\$3,672,319		

WBS 1.2 Escalation and Contingency

Total for WBS 1.2 =	\$676,280	
Total Direct and G&A (above)=	\$617,778 *	
Project Support Escalation =	\$0	
Project Support Contingency =	\$58,502	12%

Total Indirect=	\$135,291
Total Direct =	\$482,487

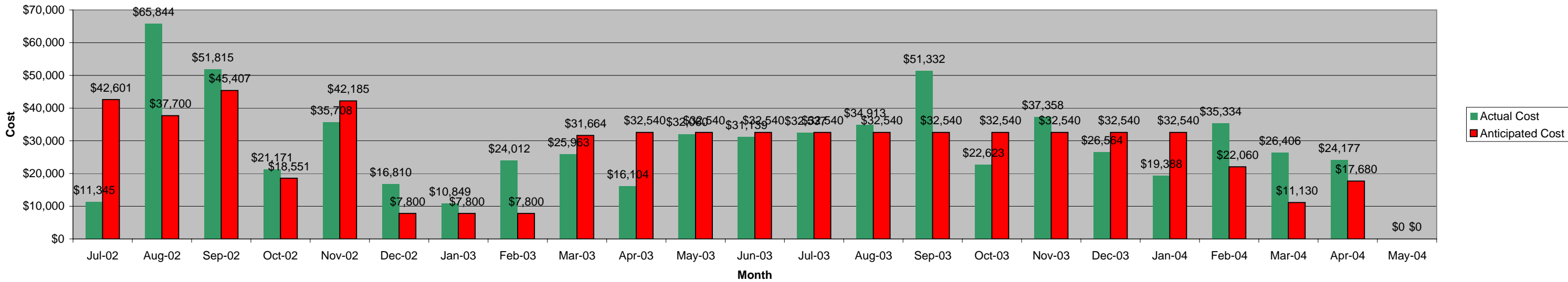
Includes SA 1 through 8

WBS 1.1 Escalation and Contingency

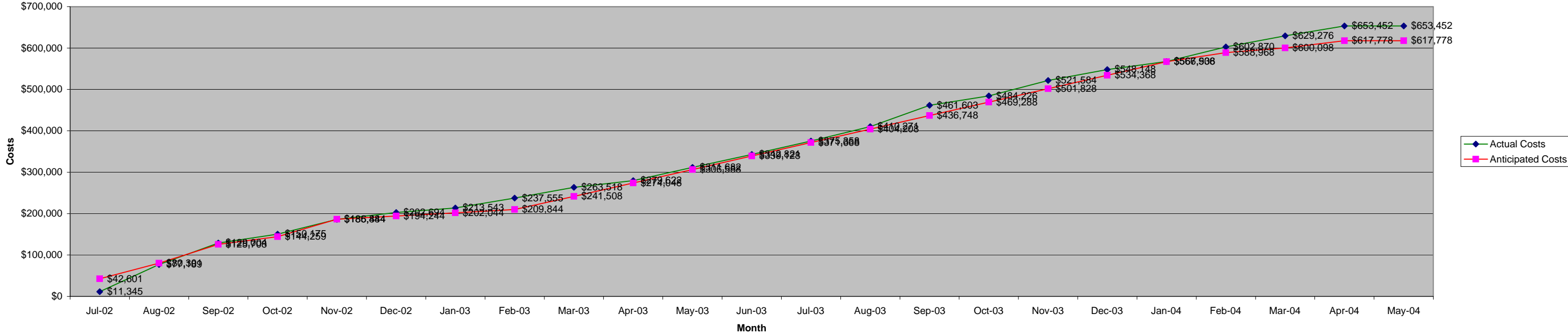
Total for WBS 1.10 =	\$3,133,720	
Total Direct and G&A (above)=	\$3,054,541 *	
Project Support Escalation =	\$0	
Construction Contingency =	\$79,179	3%

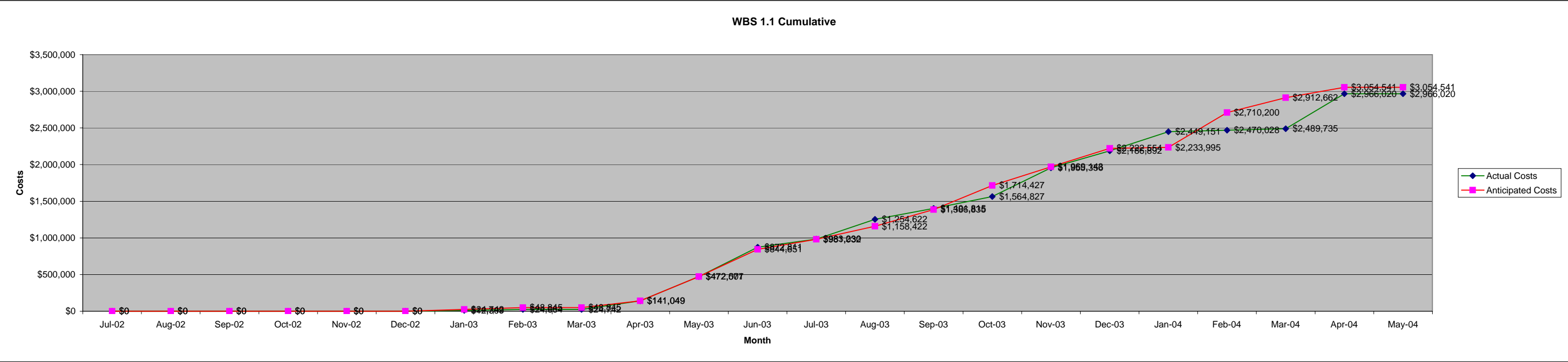
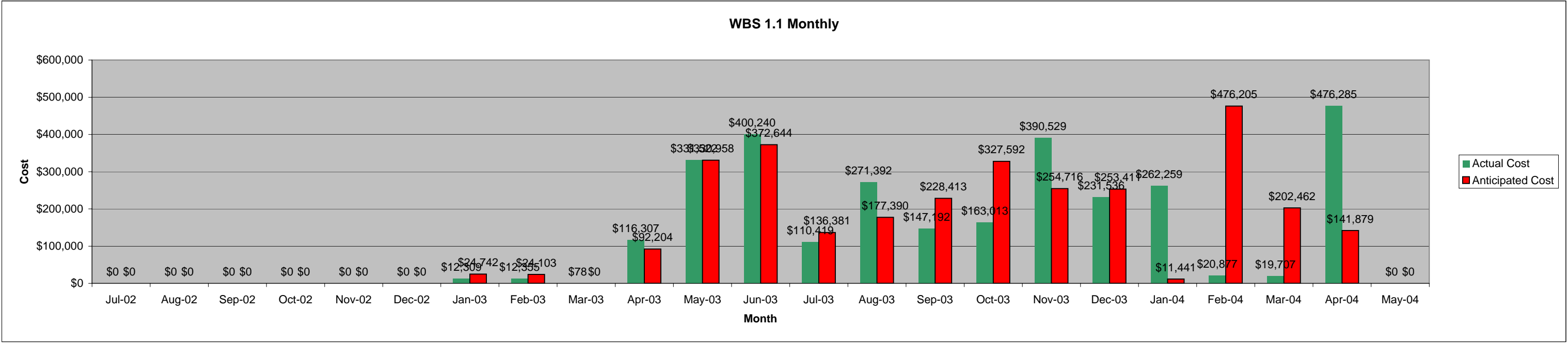
Total Indirect=	\$109,099
Total Direct =	\$2,945,443

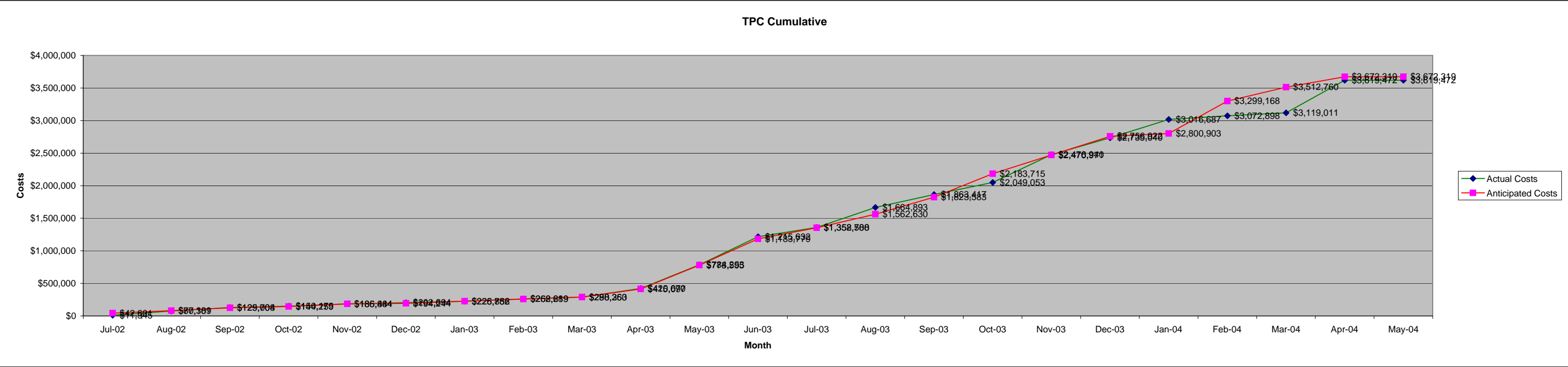
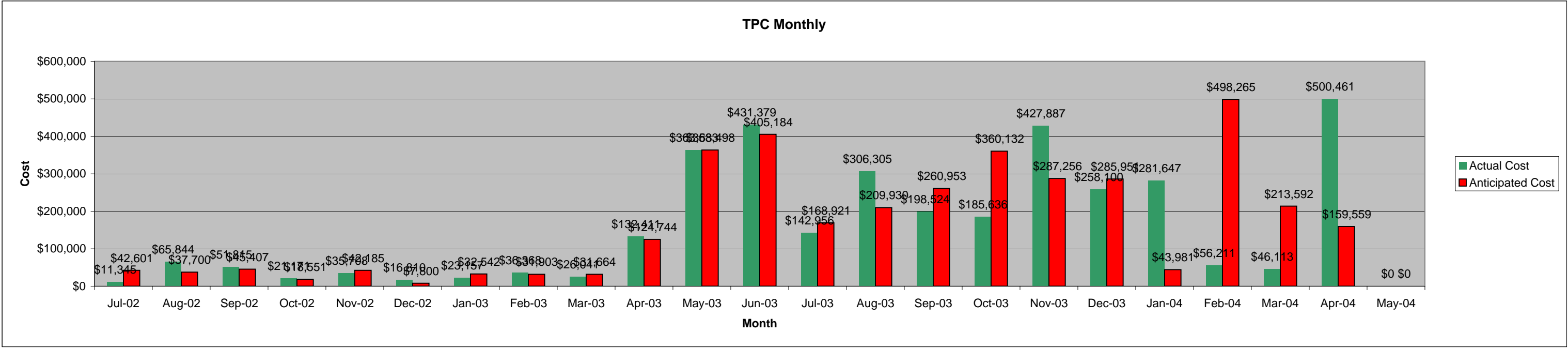
WBS 1.2 Monthly



WBS 1.2 Cumulative







MI-31 ECP LIST

ECP #	Description	Date Issued from CMO	Anticipated Credit, Extra or No Cost	Associated Sketch Number	Actual Credit, Extra or No Cost	Associated Payment Milestone	Overall Schedule Impact In Days	Whittaker Proposal Date	Accepted/ Rejected or Pending	Req. #	Req. Approval Date	SA #	Date Work Complete	Comments
1	Holeless elevator instead of single cylinder elevator and add pit ladder	3/12/2003	Extra - \$5000	SK-1...	\$19,390	3a	0	4/17/2003	Accepted	163820	5/6/2003	2		
1a	Full width doors on elevator	3/12/2003	Extra - \$3000	SK-1...	\$3,080	3a	0	4/17/2003	Accepted	163822	5/6/2003	2		
2	Watermain valve clarifications/ modifications and installation of flushing hydrants.	3/12/2003	No Cost	SK-2	\$1,665	1e	1	3/19/2003	Accepted	163549	4/15/2003	1	7/15/2003	
3	Reduce shut down schedule from 6 weeks to 5 weeks VOID	3/12/2003	NA	None	\$0	5a	0	3/28/2003	Rejected					Void
4	Earth retention changes – including bottom of soldier piles to elevation 698 and shielding distance of 18.4 feet.	3/12/2003	No Cost	SK-4	\$0	1b	1	3/28/2003	Accepted	---	4/4/2003	1	4/30/2003	
5	Temporary Bulkhead Door	3/21/2003	Extra - \$7000	SK-5	\$10,231	5a	1	4/14/2003	Accepted	163802	4/25/2003	1	9/11/2003	
6	Modifications to MI Ducts	6/26/2003	Extra – \$30,000	SK-6	\$46,117	5a	5	7/21/2003	Accepted	165776	8/1/2003	4	10/15/2003	
7	Install 6 Atlas Piles at MI-30	From Sub	Extra - \$25,000	See Excavation Plan	\$26,180	1a	3	3/28/2003	Accepted	163420	5/1/2003	1	5/7/2003	Rush Requisition, added because excavation plan required supporting building. Approval by CCB required
8	Credit for Wall Panel Coating change – three coat system to two coat system	4/22/2003	Credit – \$3,500	None	-\$3,500	2h	0	4/25/2003	Accepted	--	4/25/2003	2		
9	Credit for substitute damp proofing product	4/22/2003	Credit- \$7,000	None	-\$7,500	1i	0	4/25/2003	Accepted	--	4/25/2003	2	10/15/2003	
10	Temporary Work Platform on MI-30	5/5/2003	Extra - \$3500	Page 1 of 1	\$4,610	1b	1	5/14/2003	Accepted	164321	5/19/2003	3	6/1/2003	Field Directed on 5/15/03 - Required for maintenance of MI-30 HVAC units
11	Relocation of Building Sump	6/10/2003	No Cost	SK ECP-10	\$0	1d	0	6/24/2003	Accepted	--		4	6/7/2003	
12	Rad. Detector Platform/ Relocation	From Sub	-	None	\$733		0	6/19/2003	Accepted	165153	6/27/2003	4	6/14/2003	Field Directed , noted incorrectly in the requisition as ECP 11. Time and Material.
13	Extra for Concrete Mix Design 71	From Sub	\$7,300	None	\$5,625	1k	0	9/12/2003	Accepted	165389	7/14/2003	5	8/29/2003	See letter from Mike Botts on 6/25/03
14	Connecting Enclosure Mods	7/28/2003	\$1,500	SK-14	\$1,755	5b	0	9/2/2003	Accepted	166707	9/9/2003	5	9/30/2003	
15	Credit for PVC in lieu of Rigid Conduit for ducts on sheet E-6	From Sub	(\$10,000)	None	-\$10,000	5b	0	9/2/2003	Accepted			6	11/7/2003	
16	Topsoil for MI Stockpile	9/12/2003	\$10,000	None	\$4,368	1	0		Accepted	167479	10/21/2003	8?	12/31/2003	Based on per load cost
17	Painting of Cast In Place Walls in Lieu of Concrete Sealer	9/12/2003	\$2,500	None	\$3,362	1	3		Accepted	167479	10/21/2003	6		
18	Time extension for Shielding Steel Placement	From Sub	\$0	None	\$0	5	6		Accepted	--	--	6	NA	
19	Mezzanine	10/22/2003	\$48,000	Several	\$53,127	3	16		Accepted	168753	12/17/2003	7	4/15/2004	
20	Bonus for completing MS 5b on time	NA	\$20,000	NA	\$20,000	5b	0	NA	Accepted	167810	10/28/2003	6	11/3/2003	
21	Electrical modifications for Equip. Lift	11/3/2003	\$1,500	SK-21a,b	\$2,890	3	1		Accepted	168516	12/1/2003	7	4/15/2004	
22	Add two 600 amp breakers into the 750 kva transformer	From Sub	-	NA	\$8,771	3	0	11/4/2003	Accepted	168124	11/13/2003	7	11/25/2003	
23	Credit for change from 750 mcm to 10 cable	From Sub	(\$850)	NA	-\$850	3			Accepted	--	--	7	11/19/2003	
24	Miscellaneous Field Directed Changes	From Sub	\$1,300	NA	\$1,248	3	0	11/26/2003	Accepted	168657	12/8/2003	7	11/11/2003	Field Directed - Move SF6 footing, Waterproof Conn Enc.
25	Pelletron Support	2/4/2004	\$41,000	ECP-25	\$40,651	4	15	2/17/2004	Accepted	170123	2/24/2004	8	4/15/2004	
26	Control Room Ceiling Revision	2/5/2004	\$2,000	ECP-26	\$2,130	6	1	3/5/2004	Accepted	170512	3/9/2004	8	4/15/2004	
27	Electrical revisions for Chiller and Condenser	3/1/2004	\$12,000	Revised E sheets, 4, 6, 7,10,11	\$7,944	6	5	3/15/2004	Pending			9	4/15/2004	
28	Truck Dock Safety Modifications	3/1/2004	\$3,000	Revised A-2	\$0	6			Rejected					
29	Miscellaneous Field Directed Changes #2	From Sub	\$1,060	NA	\$1,060	4	0	2/23/2004	Accepted	170448	3/5/2004	8	3/1/2004	Door Lite, shield block move, window frame steel
30	Cable Tray Installation	From Sub		NA	\$6,735	7	0	3/31/2004	Accepted	171176	4/6/2004	9	4/12/2004	
31	Miscellaneous Field Directed Changes #3	From Sub	\$3,911	NA	\$3,911	7	0	4/1/2004	Accepted	171610	4/28/2004	9	5/1/2004	Slab, Set Condenser, Misc Elec.
32	60 amp 3 pole breaker	From Sub	\$1,126	NA	\$1,126	7	0	4/1/2004	Accepted	171752	5/10/2004	9	5/1/2004	Field directed
	TOTAL				\$254,860									

Note: Changes above colored in blue indicate added scope and bonus related extras.
All other changes are either unforeseen conditions or plan errors.

Original Subcontract Amount =	\$2,527,150	
Total Added Scope/Bonus =	\$226,746	9% change from original subcontract amount includes bonus
Total Unforeseen/ Errors =	\$28,113	1% change from original subcontract amount
Subcontract amount to date =	\$2,782,010	